

REMARKS

Claims 36-58 are pending in the present application.

1. Claims 36-52 and 54-58 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Baglione et al. (6,779,492) in view of Dietz (5,771,844).

Regarding independent claims 36-38 and 45, Examiner contends that Baglione et al. discloses all the limitations of these claims, except that Baglione et al. does not “particularly recite that the acceleration duct is arranged in the reaction chamber”. Examiner, however, contends that Applicant has disclosed “only that placing the acceleration duct in the reaction chamber allows centrifugal horizontal flow of the flue gases at the top of the chamber, which changes the speed of the particles and reduces the distance between the reaction chamber and the separator while also allowing the tubes of the reaction chamber to be used as walls of the ducts”, and that these limitations are known in the art as discussed in column 4 of Dietz. Examiner also noted that Dietz discloses “a circulating fluidized bed including delivering a mixture of gas and particles into a separator (10) and teaches that an acceleration duct (12) which has a common wall with the reaction chamber, extends into the reaction chamber (14) (column 3, lines 39-44) in the same manner as that disclosed by Applicant. Examiner therefore, concluded that “it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the acceleration duct of Baglione et al. to extend into the reaction chamber as taught by Dietz for the purpose of increasing the speed of the gas and particle mixture as it is fed into the cyclone separator to better aid in the separation performance of the separator. Applicant respectfully traverses Examiner's rejection.

As Examiner noted, Baglione et al. does not provide a circulating fluidized bed reactor, as claimed by Applicant in independent claims 36-38 and 45, that includes an acceleration duct that connects the reaction chamber and the centrifugal separator, wherein “at least part of the acceleration duct is inside the top of the reaction chamber.” (emphasis added) As shown in Baglione et al. in at least Figs. 3, 11-13, 15 and 16, the reactor 10 provides an acceleration duct that is external to the reactor chamber 12. In another embodiment in Fig. 14, the reactor 10 of Baglione et al. provides a reactor having no acceleration duct. The gas and particle mixture simply passes through an opening of a wall 325A1 disposed between the reactor chamber 312 and the separator

314. While Baglione et al. teaches the use and advantages of an external acceleration duct, Baglione et al. provides no teaching, suggestion, need or motivation to provide an acceleration duct disposed within the reactor chamber, as claimed by Applicant. In fact, Baglione et al. teaches away from needing or requiring an internal acceleration duct. Specifically, in the embodiment of Fig. 14, Baglione et al. states that “a more direct connection between the reactor chamber and the separator is achieved at low costs, since no external acceleration duct is necessary.” (emphasis added) (column 4, lines 50-58)

Furthermore, Dietz provides no motivation to combined the cited references. Contrary to Examiner’s contention, Dietz does not suggest or teach that disposing a portion of the duct 12 into the combustion furnace 14 was intended to reduce the distance between the separator 10 and the furnace 14. Further, Dietz is silent as to the length of the duct. Dietz simply states that the inlet flow passageway 12 “usually extends partially into the upper portion of a fluidized bed combustion (FBC) furnace 14.” (column 3, lines 41-44) Dietz is silent to the motivation or advantages of disposing the duct 12 within the furnace 14. Therefore, Applicant contends that not only is there no teaching, suggestion, or motivation to combine the features of Baglione et al. and Dietz, Baglione et al. teaches away from needing or having an internal acceleration duct.

Regarding claim 45, neither Baglione et al. nor Dietz show a reactor having “an internal deflector”, as claimed by Applicant, and therefore, is further patentable over Baglione et al. in view of Dietz.

Applicant therefore respectively asserts that claims 36-38 and 45 are patentable over Baglione et al. in view of Dietz for at least these reasons. It is respectfully requested that these claims be reconsidered and allowed.

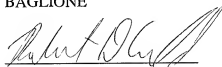
3. Claims 39-44, 46-52 and 54-58 variously depend on independent claims 38 and 45, and therefore, are patentable over Baglione et al. in view of Dietz for at least the reasons provided hereinbefore. It is respectfully requested that these claims be reconsidered and allowed.

4. Applicant acknowledges that claim 52 is objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicant will wait until the conclusion of the prosecution of this application to amend this claim.

5. Please charge the fee of **\$120.00** for the one-month extension of time to Deposit Account No. 03-2578 Order No. VA30408. Any deficiency or overpayment should be charged or credited to Deposit Account No. 03-2578 Order No. VA30408.

Respectfully submitted,

BAGLIONE

A handwritten signature in dark ink, appearing to read 'Robert D. Crawford', is written over a horizontal line.

Robert D. Crawford
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